

E1

E1b region gene, and said heterologous gene having the further property of encoding a protein that has anti-tumor activity.

E2

2. The adenoviral vector as described in claim 1 or 15 wherein said deletion of said E1b region genes comprises p19, 55K, and pIX genes.

E3

3. The adenoviral vector as described in claim 2 wherein said deletion of said E1b region genes comprises the p19 and 55K genes.

4. The adenoviral vector as described in claim 2 wherein said deletion of said E1b region genes comprises the pIX gene.

E4

5. A recombinant adenoviral vector selected from the group consisting of Δ KmTNF, Δ E1B/CD and Δ 55K/CD.

E5

6. The recombinant adenoviral vector as described in claim 1 or 15 wherein said heterologous gene encodes a protein selected from the group consisting of tumor necrosis factor alpha, interferon gamma, an interleukin, a cell suicide protein, cytosine deaminase, thymidine kinase and mip-3.

E6

10. A method for directly treating a mammal's neoplastic condition in a mammal in need of said treatment, comprising administering to said mammal a therapeutically effective dose of said adenoviral vectors of claims 1, 5, 6 or 15.

E7

11. The method as described in claim 10 further comprising administering with said adenoviral vectors a chemotherapeutic or an immunosuppressive agent.

E8

15. A recombinant adenoviral vector comprising a deletion of E1b region gene(s), but retaining the E1b promoter, and substituting for said E1b region gene(s) a heterologous gene that is operable linked to said E1b promoter, and said heterologous gene(s) having the further property of encoding a protein that has anti-tumor activity.